REMARKS

This responds to the Final Office Action dated October 15, 2008.

Claims 1, 5, 8, 11, 15, and 18 are amended. Claims 1, 3-6, 8-11, 13-16, and 18-20 are now pending in this application.

§103 Rejection of the Claims

Claims 1, 4-6, 8, 11, 14-16 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hill et al. (U.S. Patent No. 5,718,208, hereinafter "Hill"). Claims 1, 3-6, 8-11, 13-16 and 18-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Adams et al. (U.S. Publication 2003/0229380, hereinafter "Adams ") in view of Gross et al. (U.S. Publication 2003/0045909, hereinafter "Gross "). Claims 3, 9, 10, 13, 19 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hill. The rejections are traversed and reconsideration is respectfully requested.

Applicant generally reiterates the remarks made in response to previous office actions and notes that the section 102 rejection of claims 1, 4-6, 8, 11, 14-16 and 18 have not been repeated in the present Final Office Action. As best understood, the Examiner's rejections are based upon the combination of the cited references as teaching: 1) the delivery of parasympathetic stimulation, 2) delivering such stimulation in a device also configured to deliver ventricular pacing, 3) the device being configured to measure cardiac output, 4) the device being configured to measure an exertion level, and 5) controlling the delivery of the parasympathetic stimulation based upon the measurements of cardiac output and exertion level. All of the cited references teach delivering parasympathetic stimulation for the express purpose of decreasing heart rate. Although Adams does mention that the described method may be implemented in a pacemaker, the reference contains no suggestion that the parasympathetic stimulation would be delivered at the same time that ventricular paces are being delivered (i.e., when there would then be no lowering of heart rate due to enforcement of a minimum heart rate by the pacemaker). One or more of the references teach controlling the delivery of parasympathetic stimulation is controlled in accordance with a measurement of exertion level or in accordance with a measurement of cardiac output or a variable related to cardiac output by adjusting a target heart rate in accordance with the measurement. Similar to rate-adaptive pacing, controlling

stimulation that causes a change in heart rate in accordance with measured variable involves employing a function that maps a given measurement to a heart rate considered to be adequate for that given measurement. In the devices discussed by the cited references, for example, one would suppose that the devices employ a function that maps a given exertion level measurement to an adequate target heart rate (i.e., similar to a rate response curve used in rate-adaptive pacing) or employ a function that maps a given cardiac output measurement to a target heart rate considered adequate for that measurement. What the cited references do not teach, either alone or in combination, is the employment by the device of a function that maps an exertion level to a minimum cardiac output considered adequate for that exertion level and the controlling of the delivery of parasympathetic stimulation based upon whether or not the measured cardiac output is below the minimum cardiac output for the measured exertion level.

As amended herein, independent claims 1 and 11 recite a device and method for delivering parasympathetic stimulation in which a function is computed that maps measured exertion levels to minimum cardiac output values considered to be adequate for a particular exertion level and in which the delivery of parasympathetic stimulation is ceased if a presently measured cardiac output is below the minimum cardiac output indicated as adequate by the function. Applicant finds nothing in the prior art of record that would motivate one of ordinary skill in the art to modify the devices described in the cited references to deliver parasympathetic stimulation in the manners recited by claims 1 and 11. As noted above, unlike Applicant's method and device, all of the cited references describe the delivery of parasympathetic stimulation for the purpose of slowing heart rate. All of the descriptions of using measurements of cardiac output or exertion level to control parasympathetic stimulation in the cited references involve adjusting a target heart rate. To the extent possible, the heart rate is controlled by the parasympathetic stimulation in those devices (i.e., it is either slowed or it is not). There would be no reason, therefore, for any of those devices to use a function that maps exertion levels to adequate cardiac output independent of heart rate such as recited in the claims.

For the reasons given above, Applicant believes that claims 1 and 11, as amended herein, are not rendered obvious by any combination of the cited references. Applicant further believes that the recitations of the dependent claims are neither taught nor suggested by the cited references in the context of their combination with claim 1 or claim 11.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (847) 432-7302 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date January 15, 2009

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on January 15, 2009.

Kate Gannon
Name

Signature